

CLAIMS:

1. A method of automatically creating a control network comprising communication links for communicating control network traffic between nodes of a communications network,
5 comprising the steps of, in each of a plurality of nodes:

establishing a list of a plurality of neighbour nodes to each of which the node has a direct communication link for communicating user traffic with the neighbour nodes; and

10 establishing a control network link for communicating control network traffic directly with each of said neighbour nodes in said list.

2. A method as claimed in claim 1 wherein the communication links comprise first links for communicating user traffic between nodes and second links for communicating
15 control network traffic between nodes, and the step of establishing a control network link for communicating control network traffic directly with each of said neighbour nodes in said list comprises establishing the control network link using one of said second links where this is available between the
20 respective nodes, and otherwise establishing the control network link using available bandwidth of one of said first links between the respective nodes.

3. A method as claimed in claim 2 wherein the step of establishing the control network link using available bandwidth
25 of one of said first links between the respective nodes comprises selecting one of a plurality of said first links between the respective nodes having a greatest available bandwidth.

4. A method as claimed in claim 2 wherein each of said communication links has an identification of shared risk with others of said communication links, and the step of establishing the control network link using available bandwidth of one of said first links between the respective nodes comprises excluding any of said first links having a shared risk with any other control network link.

5. A method as claimed in claim 4 wherein the step of establishing the control network link using available bandwidth of one of said first links between the respective nodes comprises selecting one of a plurality of said first links between the respective nodes having a greatest available bandwidth.

6. A method as claimed in claim 2 wherein the step of establishing a control network link for communicating control network traffic directly with each of said neighbour nodes in said list comprises, in the event of a fault adversely affecting a control network link using one of said second links, maintaining the control network link using available bandwidth of one of said first links between the respective nodes.

7. In a communications network comprising a plurality of nodes, first communication links for communicating user traffic between nodes, each node having at least one of said first communication links with each of a plurality of respective neighbour nodes, and second communication links for communicating control network traffic between at least some of the nodes, a method of automatically creating a control network comprising the steps of, in each node:

determining each of said plurality of respective neighbour nodes; and

establishing, using one of said second communication links or bandwidth of one of said first communication links, a control network link for communicating control network traffic directly with each of said respective neighbour nodes.

8. A method as claimed in claim 7 wherein the step of establishing the control network link using bandwidth of one of said first communication links comprises selecting one of a plurality of said first communication links between the respective nodes having a greatest available bandwidth.

9. A method as claimed in claim 7 wherein each of said communication links has an identification of shared risk with others of said communication links, and the step of establishing the control network link using bandwidth of one of said first communication links comprises excluding any of said first communication links having a shared risk with any other control network link.

10. A method as claimed in claim 9 wherein the step of establishing the control network link using bandwidth of one of said first communication links comprises selecting one of a plurality of said first communication links between the respective nodes having a greatest available bandwidth.

11. A method as claimed in claim 7 wherein the step of establishing a control network link for communicating control network traffic directly with each of said respective neighbour nodes comprises, in the event of a fault adversely affecting a control network link using one of said second communication links, maintaining the control network link using available bandwidth of one of said first communication links.

12. A communications network comprising a plurality of nodes and a plurality of communication links for communicating user traffic and control network traffic between the nodes, wherein each of the nodes is arranged for determining a plurality of neighbour nodes to each of which the node has a direct communication link for communicating user traffic, and is further arranged for automatically establishing and maintaining a control network link for communicating control network traffic directly with each of said neighbour nodes.

13. A communications network as claimed in claim 12 wherein the communication links comprise first links for communicating user traffic between nodes and second links for communicating control network traffic between nodes, and each node is arranged for automatically establishing the control network link using one of said second links where this is available between the respective nodes, and otherwise establishing the control network link using available bandwidth of one of said first links between the respective nodes.

14. A communications network as claimed in claim 13 wherein each node is arranged, for establishing the control network link using available bandwidth of one of said first links between the respective nodes, to select one of a plurality of said first links between the respective nodes having a greatest available bandwidth.

15. A communications network as claimed in claim 13 wherein each of said communication links has an identification of shared risk with others of said communication links, and each node is arranged, for establishing the control network link using available bandwidth of one of said first links between the respective nodes, to exclude any of said first links having a shared risk with any other control network link.

16. A communications network as claimed in claim 15 wherein each node is arranged, for establishing the control network link using available bandwidth of one of said first links between the respective nodes, to select one of a plurality of said first links between the respective nodes having a greatest available bandwidth.

17. A communications network comprising a plurality of nodes, first communication links for communicating user traffic between nodes, each node having at least one of said first communication links with each of a plurality of respective neighbour nodes, and second communication links for communicating control network traffic between at least some of the nodes, wherein each of the nodes is arranged for carrying out the method of claim 7.

18. A communications network comprising a plurality of nodes, first communication links for communicating user traffic between nodes, each node having at least one of said first communication links with each of a plurality of respective neighbour nodes, and second communication links for communicating control network traffic between at least some of the nodes, wherein each of the nodes is arranged for carrying out the method of claim 8.

19. A communications network comprising a plurality of nodes, first communication links for communicating user traffic between nodes, each node having at least one of said first communication links with each of a plurality of respective neighbour nodes, and second communication links for communicating control network traffic between at least some of the nodes, wherein each of the nodes is arranged for carrying out the method of claim 9.

20. A communications network comprising a plurality of nodes, first communication links for communicating user traffic between nodes, each node having at least one of said first communication links with each of a plurality of respective
5 neighbour nodes, and second communication links for communicating control network traffic between at least some of the nodes, wherein each of the nodes is arranged for carrying out the method of claim 11.